FESSENDEN'S

SILK MANUAL

AND

PRACTICAL FARMER.

Devoted to the Culture of Silk, Agriculture, and Rural Economy.

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BOSTON, MARCH, 1836.

Remarks of Mr Fessenden, from Boston, in the Legislature of Massachusetts, Feb. 25, 1836, on a Bill for the Encouragement of Silk.

The culture of the mulberry tree, and the manufacture of silk do not present us with anything new, doubtful or visionary. The art of silk culture, though in its infancy in Massachusetts, is, in some countries, coeval with the dawn of civilization. In North America, while we were colonies under Great Britain, from 1755 to 1772, premiums were bestowed, by a patriotic association in London, called "*The Society for the Encouragement of Arts,*" on a number of persons in Georgia, South Carolina and Connecticut, for planting mulberry trees, and for cocoons, and raw silk; and those premiums laid the foundation for the silk-culture in those States.

In the year 1828 there was published at Washington, in a large thick pamphlet, a "*Letter from Richard Rush, Secretary of the Treasury of the U. S. transmitting the information required by a resolution of the House of Representatives, of May 11, 1826, in relation to the Growth and Manufacture of Silk, adapted to the different parts of the Union.*" This communication was dated February 7, 1828, sent to the House of Representatives, and referred to the Committee on Agriculture, of that House, April 21, 1828. The pamphlet was of royal octavo size, and contained 224 pages, together with a great number of cuts explanatory of different processes in the silk manufacture. According to this valuable state paper, it was found that after the war of the revolution the culture of silk was renewed, and in 1789 two hundred pounds weight of raw silk were made in the single town of Mansfield, in Windham county, Connecticut. In the year 1810, the value of the sewing silk and raw silk, made in the three counties, New London, Windham and Tolland, was estimated, by the United States' Marshal, at $28,503; but the value of the domestic fabrics made from the refuse silk, and worn in those counties, was not taken into consideration. This may fairly be estimated at half the above sum. In 1825 it was found that in Windham county the value of sewing silk and of the domestic silk fabrics was double what it was in 1810, (having doubled in three years) and then amounted to about $80,000. It was also found that sewing silk was part of the circulating medium of the counties of Windham and Tolland, and that it was readily exchanged at the stores for other articles, on terms which were satisfactory to both parties, and that the balance of the account, when in favor of the seller was paid for in silver.

There is, at this day, no doubt of the profits which attach to the *skilful* as well as diligent manufacture of silk. But it may be asked, how is that manufacture connected with the *farming interest of Massachusetts*, as its advocates assert? To this I reply, that farmers possess not only that interest, which is common to, and binds together, the three great branches of human industry, Agriculture, Manufactures and Commerce, but the foundation, and first stepping stones of the Silk Culture are Agriculture and the pursuits of rural economy. The raising of mulberry trees, and the

furnishing of mulberry leaves for feeding silk worms, is as much the business of the farmer, as the raising of corn and potatoes. We have many thousands of acres in this commonwealth, which are thought to be almost totally unfit for any agricultural purpose, but would prove very valuable for the raising of mulberry trees. Dry, stony soils, descending to the south produce mulberry leaves of a better quality than rich levels or lands with a northern aspect. I hope the time will come, in which the sides and the summits of every one of the thousand hills of old Massachusetts will be decorated and crowned with mulberry trees. In that case, if silk manufactures flourish, whether they belong to the fire side and farm buildings of cultivators, or to incorporated companies, mulberry leaves, as well as mulberry seeds, seedlings, cocoons, &c. will be articles in as regular demand in market as beef, flour, or any article consumed in a family.

Dr Lardner states, that in many parts of France and Italy mulberry leaves are commonly sold in market by weight, and that persons, who rear silk worms are often wholly dependent on this source for a supply. In other places mulberry trees are hired for the season, and from four to six francs, (about 75 to 110 cts.) are paid for the use of each tree.

Some have objected to incorporating silk companies, with the right to *grow* as well as to *manufacture* silk, lest the corporators should raise the leaves in such quantities as to prevent their sale by farmers in the neighborhood. But if the manufacturing part of silk culture succeeds, there will always be good encouragement for the agricultural part; and silk companies might as well attempt to monopolize air or sunshine as the growing of mulberry leaves. If silk factories flourish, (and I think they will flourish, if we give them a little encouragement at their commencement) those factories will require mulberry leaves, cocoons and raw silk to some hundred times the amount of all that the owners of such factories or persons engaged in their business can ever think of raising or reeling themselves. The demand for mulberry leaves and cocoons, for which they must be almost wholly dependent on the farmers, will increase with the supply; but without a competent supply to commence with, there never can be much demand for those articles. Silk companies and their workmen will have their own appropriate avocations to attend to. Artists who have served apprenticeships to the making of different sorts of silk fabrics of nice texture and high price, engineers capable of constructing and superintending the employment of those efficient and gigantic laborers, *power looms*, and *steam engines*, would be foolishly set to work in gathering mulberry leaves; usurping the places and occupations of the farmer's women and children. This would be worse than putting Hercules to the distaff. It would be an absurdity equal to the employing of steam engines of forty horse power to pare apples, or to give motion to a straw cutter; or to use a railroad car to drive cows to pasture. It is a truth that the agricultural part of producing silk may usefully employ the hands of a cripple, a child or an idiot, and some branches of the mechanical and manufacturing part may task the mental powers of a Bacon, a Newton, an Arkwright, or a Fulton. The Farmer who refuses to patronize, or who uses his influence in this honorable body to prevent legislative encouragement to the culture of silk, acts a part in as direct opposition to his own interest as if he were to oppose the franchise of a market in Boston, or to head a mob to inflict Lynch law on market men.

A strong argument in favor of the culture of silk is that it will neither interfere with, nor supersede, any other kind of domestic manufacture. And some branches of silk culture can never be taken out of the hands of the husbandman and his family by the great wholesale manufacturers. This, however, is not the case with regard to cotton and woollen manufactures. I can remember when nearly all the cotton and woollen goods used in the country were of domestic manufacture, products of the spinning wheel and of the hand loom. Cotton as well as wool was carded, spun and woven by the farmer's daughters and female hired help; and for a farmer, or his family to wear any apparel not manufactured wholly, or in part by the females of his household, would be held very disreputable extravagance.

We, however, incorporate, and I am willing that we should continue to incorporate, companies

to manufacture woollen and cotton goods by water and by steam power. We thus sanction the use of, and lend a hand in establishing certain agents and machines which have rendered some branches of domestic industry entirely obsolete, and caused family spinning wheels and looms to be as much out of fashion as high heeled shoes and hoop petticoats. This is the less to be regretted because substitutes for such wheels and looms may perhaps, be found in the mulberry hedge, the farmer's cocoonery and the domestic silk spinner.

Many persons are of opinion that large factories are greatly and permanently injurious to domestic industry, and to the greatest good of the greatest number. To such erroneous notions I beg leave to oppose the facts and the reasons contained in a "Report of a Committee of the House of Commons in Great Britain on the Woollen Trade."

"Your committee have the satisfaction of seeing that the apprehensions entertained of factories are not only vicious in principle, but they are practically erroneous, in such a degree that even the very opposite principles ought to be reasonably entertained. Nor would it be difficult to prove that the factories, to a certain extent at least, and in the present day, seem absolutely necessary to the well being of the domestic system; supplying those very particulars wherein the domestic system must be acknowledged to be inherently defective; for it is obvious that the little master manufacturers cannot afford, like the man who possesses considerable capital, to try the experiments which are requisite, and incur the risks, and even losses, which almost always occur, in inventing and perfecting new articles of manufacture, or in carrying to a state of greater perfection articles already established. He cannot learn, by personal inspection, the wants and habits, the arts, and improvements of foreign countries; diligence, economy and prudence, are the requisites of his character, not invention, taste and enterprise; nor would he be warranted in hazarding any part of his small capital. He walks in a sure road as long as he treads in the beaten track; but he must not deviate into the paths of speculation. The owner of a factory, on the contrary, being commonly possessed of a large capital and having all his workmen employed under his own immediate superintendence may make experiments hazard speculation, invent shorter or better modes of performing old processes, may introduce new articles, and improve and perfect old ones, thus giving the range to his taste and fancy, and thereby alone, enabling our manufactures to stand the competition with their rivals in other countries. Meanwhile, as is well worthy of remark, (and experience abundantly warrants the assertion,) many of the new fabrics and inventions, when their success is once established, become general among the whole body of manufacturers; the domestic manufacturers themselves thus benefitting in the end from those very factories which had been at first the objects of their jealousy. The history of almost all other manufactures in which great improvements have been made of late years, in some cases at an immense expense and after numbers of unsuccessful experiments, strikingly illustrates and enforces the above remarks. It is besides an acknowledged fact that the owners of factories are often among the most extensive purchasers at the halls, where they buy from the domestic clothier the established articles of manufacture, or are able at once to answer a great and sudden order; while, at home, and under their own superintendance, they make their fancy goods, and any articles of a newer, more costly, or more delicate quality, to which they are enabled by the domestic system to apply a much larger proportion of their capital. Thus the two systems, instead of rivalling are mutual aids to each other; each supplying the other's defects, and promoting the other's prosperity."

When I first began to turn my attention to silk culture, I was apprehensive that the climate of New England was not favorable to that branch of industry. I thought that the Southern States would have greatly the advantage of the Northern by reason of their warmer and longer summers; and that, by obtaining several crops of cocoons in a season, our brethren in that part of the union would possess such superiority as to render all competition of the inhabitants of New England unprofitable if not impossible. But reading the following passage in *Dr Lardner's Treatise on the Culture of Silk*, together with some other consid-

erations has changed my opinions on the subject.

Count Dandolo, (a celebrated Italian silk culturist) is of opinion, that in Italy it is disadvantageous to obtain more than one crop in each season. He affirms that the mulberry tree cannot bear the constant stripping of its leaves without injury. "All things considered" says he, "I am well persuaded that one of our good crops will be equal in produce to any number that may be gathered in a year." If then one crop a year is all that can be advantageously obtained in a country so famous for the production of silk as Italy, our warm season in New England is long enough and warm enough for that kind of culture.

The reason why the advance of silk culture has been so slow, in places in which it has maintained only a languishing existence, or at best a feeble progress for many years and even centuries, has been the want of that general information relative to the growth and manufacture of silk, which our New England habits of investigation together with our printing presses will supply. If A. makes an improvement of any consequence, B. C., &c. to the end of the alphabet will soon be in possession of it. The press gives universality to every improvement in the arts. Any labor saving machine, contrivance or discovery, diffused by our locomotive omnipresent newspapers, and other periodicals, instead of being confined to the closet of the philosopher or the work shop of the mechanic, soon becomes as common as day light.

But I am told that no capital, nor incorporated company is requisite for the manufacture of silk. That half an ounce of mulberry seed, and land enough to sow it on, are all that are necessary to begin with. Very well, neither is capital necessary to *commence* operations in making a railway or a canal, say one hundred miles long. A spade and a pick-axe are alone wanted, yet, we, very properly, incorporate companies for constructing canals and railways. A single laborer might break ground for forming a canal across the isthmus of Darien, to unite the Atlantic with the Pacific ocean; but, if we wanted to make a good job of it we should incorporate a company with a large capital.

If Massachusetts gives no encouragement to silk culture, but seems to look upon it with a jealous eye, and extends to our infant manufactures a hard and a heavy instead of a helping hand, we shall induce artists and capitalists to choose their locations in other States. Connecticut, Vermont, New Hampshire, Maine, &c., will not fail to take advantage, of such illiberal and short sighted policy. But we have no reason for complaint or apprehension; and believe that this enlightened Legislature will act in accordance to the maxim that a judicious liberality is the best economy. In praying for acts of incorporation we do not ask for any exclusive right, and are perfectly willing that others should build silk factories. Neither do we ask for money from this Commonwealth to carry our plans into operation. We only petition for the privilege of expending, under the sanction of the Legislature, our *own money*, in a way, which, if it succeeds will greatly benefit the public, but if it fails will injure none but your humble petitioners. Companies for the growth and manufacture of silk have lately been formed, and have gone, or are going into operation in Providence, Concord, N. H., Hartford, Con., Poughkeepsie, N. Y., Warren county, N. Jersey, several parts of Penn., Columbus, Ohio, &c. Some of these, I am well assured, and all, I believe, have lands, and the privilege of growing as well as of manufacturing silk.

There are some advantages which silk culturists of the present day enjoy, and which give them superior means to attain their objects, to those within the knowledge and reach of their predecessors. The facility of diffusing information by means of the spirit of investigation and the power of the press have been adverted to. To these we may add the introduction of the Chinese Mulberry, the invention or improvement of the power loom, and the native characteristic ingenuity and inventive faculties of the people of New England. If the Chinese mulberry can be acclimated, made to endure our New England winters, as we have many reasons for believing, it will give a new and improved character to silk culture by increasing the quantity and facility of raising food for silk worms. And the quality of the silk which is formed from leaves of this, is said to be superior to that which is obtained from any other plant, and the cocoons of a larger size. The Chinese

mulberry plants are injured or destroyed by kindness, by being grown on too rich a soil, which causes the wood to be formed faster than it can be ripened, but the mistakes in its culture will be rectified by time and experience, and the acquisition of the plant, will I think, give a new and bright aspect to our silk culture.

The invention and application of the power loom to weaving silk, by Mr Gay of Providence, will also, I believe, tend to produce a new era in this art. By this valuable improvement it appears that an individual may, by attending to four looms produce 100 yards a day of woven silk.

Mr F. said that silk ought not to be viewed as a mere article of luxury. That, with the improvements which the art of silk culture appeared capable of attaining, not only the cheapest sort of garments for laborers might be made of refuse silk, but, he believed, (though he might be too sanguine and somewhat of an enthusiast in his anticipations) that vessels for sea might be fitted with this material. He thought that the time was approaching when not only the rigging and sails, but even the cables of ships, &c. would be formed of silk, the cheapest and strongest material which nature and art could furnish for those important purposes.

(From the New England Farmer.)

TRANSPLANTING FRUIT TREES.

Mr Editor :—As the season is fast approaching, which in my humble opinion is the proper season for transplanting most kinds of fruit trees, and as most people entertain different opinions relative to the proper time and method of starting trees from the nursery, and transplanting, I take the liberty to offer through your valuable paper, the N. England Farmer, a few practical remarks, that others may profit by my experience, if they see fit.

My knowledge of the business is founded on practice and observation. I have been personally engaged in the business of transplanting both large and small trees, more or less, for the last twenty years, into all kinds of soil (that we have in this vicinity), and at all seasons of the year, and operated by all of the different methods that I ever saw or heard of. And as far as my observation has extended, I will make a brief statement of the success and disappointments that I have met with. I prefer starting trees from the nursery in the autumn, as the sap at that period is all down and safely deposited in the roots (or some where else); I dig a deep trench about two feet in depth, in a somewhat sheltered situation, and pack or head the trees in as close as I possibly can, taking care to sift the dirt well in among the roots; if open spaces are left, the roots will mould, which injures them very much. The roots being buried deep, vegetation will be kept back in the spring of the year, which will give ample time to prepare the ground, and have it in good order for planting; likewise the operation of transplanting may be delayed some weeks later than if the trees were started from the nursery in the spring. I manage trees that are started early in the spring in the same way. The trees in E. Phinney, Esq.'s orchard in Lexington, that took the first premium of the Massachusetts Agricultural Society, about 5 years since, if I mistake not, were all started from the nursery in the autumn, and were not transplanted until after planting the ground with vegetables or grain, the next spring — probably about the 1st of May; and where will you find another orchard like his; perhaps not in America. A farmer that glories in his profession would profit more, and be more gratified in visiting his orchard, than he would the falls of Niagara. In starting trees from the nursery, I am particular to loosen the soil around them with a stiff tined fork, which starts the dirt from the root and prevents the large roots from splitting, or the small fibres from breaking off with the dirt, when you lift the tree. Then with a sharp spade I cut off all the horizontal roots I possibly can, at least 18 inches from the body of the tree, if the distance between trees will admit; if the trees are large I cut further. I then raise the tree perpendicular, or nearly so, by a steady pull, after which I immediately cover the roots with a wet mat, or some kind of rubbish, to prevent the roots and fibres from drying; if the trees are to be transported any distance they should be matted immediately, or if to head in, or transplant, no time should be lost, as the fresher the roots the better the tree will thrive.

Now, one word about the mutilating process, in which I differ from most practical men, both in the animal and vegetable kingdom. Before planting I trim both root and branch; the roots, by cutting off all ragged ends and bruised places. If the tree is tender and difficult to make live, I cover all such places with grafting composition (viz. two parts beeswax, one tallow); the tops of the trees I trim in proportion to the loss of roots; the tap roots of trees and plants, or pig's-tails, I never cut off (reader, keep cool!): I should as soon think of mutilating children's feet, in order, when they become men, they might walk easier. Nature has furnished both for very good and important purposes; cut them off, and you cut a link out of nature's chain. I was much pleased in reading Mr Claggett's very able remarks in the N. E. Farmer, of the 17th ult. against the general practice of topping Indian Corn; his ideas upon that subject, I think, are founded upon correct

principles, and are in perfect accordance with my method of practice.

And now, Mr Editor, if you or any one of your subscribers will offer any good reason in favor of mutilating either tap roots of trees or plants, tops of Indian Corn, or pigs (or any other animal's) tails, I for one should like very much to see them.

Apple trees I prefer setting in rows 40 feet apart each way. The pear, peach, plum and cherry, 20 feet or less will answer. The peach will do well, if the nature of the soil will answer, between apple trees, as they are short-lived, and will be out of the way before the apple trees require the whole of the ground. In digging the holes after the ground is staked out, I dig around the stake considerable larger in circumference than the roots extend, (taking care not to move the stake,) and as deep as the ground has been ploughed, and no deeper upon any account whatever, — unless the subsoil or pan is clay or gravel, and very hard and compact; in which case I loosen the bottom of the hole with a pick or bar, in order to give the tap root a chance to go down.

To dig holes 2 or 3 feet in depth, and fill up with manure, top soil, or small stones, as many are in the habit of doing, and which I have done myself, is in my opinion a very bad practice, and has a bad effect. Trees in general have three distinct classes of roots, at least they seem calculated to answer three different purposes. The first tier or class naturally run horizontally with the surface, or nearly so, and are covered with numerous small fibres or feeders, which lead to the surface in search of food. The second tier or class run down nearly on an angle of 45° from the body, and seem calculated for the purpose of stays to support the trees; they contain but few if any fibres; they twist about and operate like an auger in penetrating the land far; they naturally run crooked for the better purpose of holding; the ends are generally clumped or blunt, and in old trees begin to decay with the limbs. The third tier or tap roots, in most trees, run down perpendicularly with the body of the trees, and seem calculated for a double purpose, that of a stay to hold down with, and likewise to draw moisture from the bosom of the earth; (then why cut it off?) By digging deep holes, and filling up with manure or other loose materials, the tree can not have that support that it naturally requires. Likewise it serves to draw those roots, which naturally run horizontally down, among the other class or tier of roots, after which they have to find their way out of the hole the best way they can, as they are naturally great travellers, and will not bear confinement, which fact I ascertained by removing about 100 trees that I lost by the frost in 1832. They had been set about 5 years, nearly one half of them over holes that had been filled up with rich earth, sods, &c.; those that were set on the hard pan after the second or third year, grew faster, and did better than those set over holes; and when I came to remove the dead ones, I found the roots to have taken their natural direction, and had extended much further than those that were set over large deep holes.

I prefer digging the beds or holes several days before transplanting, taking care to heap the dirt in order to have it dry. I like to have the earth moist, but not wet; if it is too moist it will not pack well around the roots. Before I commence setting, I draw in about two inches or more, (which depends upon the depth of the hole,) of loose fine soil, and spread it even on the bottom; I then pull up the stake, and if the tap root is large, I make the hole larger to receive it. I then press the tree down so that the brace roots may rest solid on the bottom, then I have a boy or man to steady the body of the tree, and another to sift the fine dirt in upon the roots, with a corn riddle or from a broad shovel; while I with my fingers pack the dirt as close and as tight around the roots as I possibly can; taking care to give each and every tier of roots their natural direction. I never lift the tree up and down, as many are in the habit of doing, or press the earth down with my foot, until the hole is filled in even with the surface of the ground. After which I tread down so as to leave it a little concave. If a tree has good roots, and the earth is well packed around it at the time of planting it will not require staking. It is said by some, that it is necessary to mark the tree before starting, so as to set the same side to the south that it grew in the nursery. I have tried the experiment frequently, but could never discover that it made any difference. It is likewise said that trees make more wood the south than the north side; possibly they do in Greenland, but in the latitude of Boston, I doubt very much whether the sun has that effect. At the time I lost my trees in 1832, part of them I sawed off below where they were killed, in order to engraft; and I as often found the heart of the tree to be as near the south as the north side. The sap has regular channels to run in, and there is probably as many, or they are as large upon one side as the other. After an orchard is set, I think it is best to keep the land in tillage for several years, or until the ground is well filled with manure, and the roots well extended; and whenever it is seeded down to grass I should sow nothing but clover, and plough it as often as every third year.

DANIEL CHANDLER.

Farm School Island,
Feb. 23, 1836.

Gauze is supposed to have originated in Gaza, in Palestine: hence its name.

EFFECTS OF LIGHTNING.—Persons apparently dead from lightning have been recovered by repeatedly throwing cold water over the *whole* body. Many instances are recorded. The Rev. Mr Steel, of Paris, in the State of New York, has lately in the newspapers mentioned a case of this kind. A lady was with her husband in the house, and the latter was struck with lightning. The lady happily recollected having a few days before read in the newspapers of the efficacy of cold water, and had the presence of mind to make a trial of it; on the effusion of the first bucketful he began to move, and on the repetition of a few more, was restored to sense and health. If, during the recovery, the pulse is slow and extremities cold, bleed largely at the arm. A gentleman now living in Johnson county, (R. Gully, Esq.) was a few years ago struck down by lightning, and recovered by exposure to a heavy fall of rain.

The above floating paragraph we copy, because we understand that a circumstance recently occurred in this town, which favors the theory therein stated. Mrs Cannon, whom we mentioned in our last as having been struck down with lightning, owes her life to the providential circumstance of a bucket of water having been thrown upon her by a little boy in the fright and the delirium of the moment, who appears not to have known what he did, or why he did thus. Indeed, for some days he was afraid to tell that he did throw water upon the insensible patient. An instance is also mentioned of a gentleman at the West being struck down with lightning, and with so great force that the electric fluid, on entering his body "tore his coat, vest and shirt into shreds, burnt the hair from one side of his head, crossed his breast, passed down the extremities, and out through his shoes, perforating them with holes as though buck shot had been forced through them; in some places breaking the skin, and scorching it in its whole course, so as to give it the appearance of an extensive burn." And yet it is said this individual is in a fair way for getting well, in consequence of plentiful effusions of cold water upon the breast and head, and copious bleeding. Remedies of this nature should be known and treasured up in the mind by every one.—*New Bedford Times*, 1830.

PHILOSOPHICAL EXPERIMENT.—Fresh water may be extracted from salt water by the following simple process; a common hogshead is provided with a false bottom, about three or four inches above the lower head. This false bottom is perforated with a number of holes, and over them a filter of flannel. The barrel is then nearly filled with the finest sand, beat down very hard; a tube, communicating with the space between the two bottoms, is extended to a convenient height above the top of the barrel. The sea water is poured into this tube, and pressing every way, according to its altitudes, it endeavors to force its way through the sand to the top of the barrel, from whence, by this mode of filtration, it is drawn off fresh, and fit for use. Any other filter will do as well as flannel, which will stop the sand, and admit the water. The saline particles being heavier, and perhaps differently formed, meet with obstructions from the sand, and are left behind.

SILK.—The imperishable nature of silk, even under circumstances peculiarly unfavorable to the preservation of animal substances, forms another of its qualities which is deserving of remark. Some years ago, the sexton of the parish of Falkirk, in Stirlingshire, upon opening a grave in the churchyard, found a riband wrapped about the bone of an arm, and which, being washed, was found to be entire, and to have suffered no injury, although it had lain for more than eight years in the earth, and had been in contact with a body which had passed through every stage of putrefaction, until it was reduced to its kindred dust.

(From the Genesee Farmer.)

IRRIGATION OF MEADOWS.

The advantages of this operation must be obvious to every one who has observed the luxuriance of the grass in swales and low grounds which are kept moist by streams; and an additional proof is furnished by the light crops of hay on dry knolls. The following account of a simple and efficacious mode of performing it, it is copied from Sutcliff's Travels in North America. "In many parts of North America, and particularly in this neighborhood, (vicinity of Philadelphia,) it is the practice of many farmers to reserve about 15 or 20 acres of land for hay, which they continue to mow from one generation to another, many of them laying on but little or no manure; but taking the advantage of situation where the land may be easily irrigated or overspread with water from time to time. By this means they obtain heavy crops of grass, without the aid of manure, and thus supply themselves with winter fodder at an easy expense. On inquiring of two very respectable farmers, they informed me, that, upon an *average*, they got about *two and a half tons* per acre, each year, upon this plan. The land usually chosen for this purpose, is not a dead flat or marshy land, but commonly the two sides of a narrow valley of easy ascent on each hand, having a small stream running through the bottom.—When the land is to be watered, the stream at the upper end of the valley is diverted from its natural bed, and is conducted in narrow channels along each side of the valley, on as high ground as the head of the stream will admit; and by placing obstructions to the current of the streams, in dif-

ferent parts of the artificial channels, the water continues to trickle down the sides of the valley, so as plentifully and regularly to water the roots of the grass, but not in such qualities as to cover the herbage."

We observe that some writers recommend the admission of the water upon the meadow not till late in spring. This is undoubtedly an error. One of the chief uses of irrigation is to convey, by means of the water, fertilizing matter over the surface, in order to enrich it. Consequently the greatest benefit from this cause, is to be derived when the streams are high and muddy, and filled with fertilizing substances. For the same reason, streams from cow yards, dung heaps, &c. should be conducted over the surface of meadows. And, as in many places, our public roads are made of the richest materials, streams filled with their washings may sometimes be turned upon grass lands with the greatest advantage.

For the same reason also, the water, especially where the artificial stream is of any considerable size, should be conducted by a very gradual descent, so as to form a slow current, as it is only then that it deposits the matter which it contains. "If water intended for irrigation moves slowly, it leaves its riches behind it: if it runs rapidly, it carries away the farmer's riches with it."

In order that the artificial channels may be made with a regular and very slight descent, an instrument for taking levels is absolutely necessary. This may be a horizontal rod (with points for sight at each end) kept level by means of a plumb line suspended alongside of another rod attached perpendicularly to the former rod. Or a level may be made with a broad shallow vessel filled to the brim with water; this vessel may be supported on a stand made by inverting a staff in a hole in the centre of a small square board; the vessel is placed on this, and may be made level by inserting wedges under it. This will be found more convenient than the former instrument. In using it, it may be placed on a spot of ground three or four feet lower than the intended channel, and, looking across the surface of the water, observe the line where it strikes the ground. Let another person place small stakes at convenient distances along this line; and through these stakes the channel is to be cut. In order, however, that there may be a little descent in the channel, the stakes must be varied accordingly. Another way of using it is to place it at the head of the intended channel, measure its height above the surface of the ground, and observe at what places on the ground it strikes a mark, on a rod held by another person, at an equal height from the surface. Another way of aking a level is to make a small dam in the tream, at each end of this dam to insert perpendicularly, a stake in the water, so that the top of each may be precisely the same distance above the surface; by looking across the tops of these stakes, the level is determined.

The water is generally taken from the channel by causing it to overflow the bank, or by removing a part of the bank; a safer and more uniform method of doing it, is to place small beams in the bank with holes in them, through which the water may flow.

From the New England Farmer.

FARMER'S WORK FOR MARCH.

Cut, split and pile wood for your fire-places and oven, till you have at least as much as you will use for one year from this time. We have no very strong objections to your using a quantity of green wood in winter for back logs and fore sticks, in open fire-places, unless you have stone, or iron substitutes for said articles. But to use green wood in summer for cooking is monstrous; and if we ever come to *codify* domestic economy we shall make it criminal. We shall place the omission to provide wood for summer's use, during or before the month of March, under the head *laches*, in English, laziness; and authorize your better half to impeach you in a curtain lecture, and inflict a dreadful sort of punishment, which the learned style *objurgation*, but vulgar folks call *scolding!!*

This is about, if not precisely, the time to cut scions for grafting. They should be taken just as the buds begin to swell, and placed with their lower ends in the ground in some dry part of a cellar till wanted. They should be cut from the extremities of the branches of the most thrifty and the best bearing trees; sever the scion from the trees in the old wood, leaving enough, including the bulb which separates the two last years' growth, after being prepared for insertion to form the wedge.

It is high time for us cultivators to be making preparations to take the field furnished with every implement necessary to force the stubborn soil to yield the tribute due to agricultural skill and industry. Every tool and implement which will be wanted for use the ensuing season, should be critically inspected, thoroughly repaired, and such new ones of the best quality added as will, probably, be needed when we may have less leisure to select and procure them. None but a rich farmer can afford to use poor tools, and if a wealthy cultivator undertakes to carry on farming with dull, unhandy, ill-constructed implements, he is in a fair way to become as poor as he is foolish and improvident. The signs of a poor farmer, and the indications of a good farmer, are at least as legible in his farming tools as in the appearance of his stock, his crop or his farm buildings. Covering over wooden as well as iron tools frequently with oil or grease will have a tendency to preserve them.

Take a critical survey of your fences, repair every breach, and keep your cattle from your wood lot with as much care as you would from your corn field. As soon as the snow disappears you will please to parade your pastures, with a company of boys, by way of light infantry, and beat about and spread evenly those petty manure heaps, which, without such spreading, would be of little or no service.

Grain, or roots for fattening cattle, or swine, will go about one third farther, if steamed or boiled, than if used raw; and when it is wished to cook food for cattle in small quantities, it may be done evenings over a kitchen fire.

CHAFF AS A MANURE FOR STRAWBERRIES.

Among the selected articles of this number will be found a very interesting essay on the various kinds of Strawberries, and the different modes of cultivating them. We wish that this most delightful fruit were more attended to. The general impression has been, that our's is not the proper climate or soil for its successful cultivation; but this is evidently an error. We have seen as fine flavored and as large fruit of this kind, growing in our gardens, as any that we have ever met with in a more Northern latitude. When properly attended, we know of no fruit which is more profitable. Last season, we planted a half acre of these berries. We picked from the land thus planted one bushel and a half, on an average, per day. The season for picking lasted six weeks, allowing five days to the week, was equal to thirty days. The amount picked, therefore, was forty-eight bushels for the entire season. These we readily sold at 25 cents per quart, which yielded us the aggregate sum of $360. This estimate is far from being exaggerated; on the contrary, it will appear much below the mark, when it is taken into consideration, that we used liberally of the fruit for our table, and sent out to our friends.

Our mode of cultivating the plant is this — early in December or January, and in some cases, even as late as February or March, we cover our Strawberries with pine or other straw. This we set fire to, and thus consume all the decayed leaves and suckers of the plant, which may have been left from the last season. Immediately after this operation we cover the bed with a moderate portion of cowpen manure, or oak ashes, (we prefer the latter if we have it) and over this lay rice chaff two or three inches thick.

The chaff, together with the manure, impart warmth to the land, and cause the plants to spring up much earlier than they otherwise would. The berries are sooner in market, bear larger and longer in the season, and are in every other respect superior to those cultivated in the ordinary mode. Besides this, the chaff prevents the suckers from taking root; keeps the rain from filling the fruit with dirt, and throws off the too great operation of the sun from the berries while ripening. In our next number, we will enter more largely into this subject.—*Southern Agriculturist.*

[From the Southern Agriculturist.]

LARGE CORN.

Through the politeness of James Nicholson, Esq. of this city, we have been presented with an unusually large ear of corn, from the plantation of Kinsey Burden, Esq. of John's Island. It contains sixteen rows, and numbers *eleven hundred* full grains. The seed is the common flint, and was selected from a common stock growing among the crop-corn. The present ear, is, we believe, the third or forth generation in descent; and is one from many others of the same size. We have not shelled and measured it, but have not the least doubt, that it is good for something over a half pint.

Mr Burden has already distinguished himself for having brought the fine cottons to their greatest perfection by a selection of seeds. He has extended the same experiments to corn, and bids fair from the exhibition now before us, of achieving the same results. For ourselves, we can see no reason, why the same rule should not apply to corn, which applies to every other plant and to the human family. To the preservation of them in health, vigor and fecundity, change of climate, soil, and treatment are absolutely essential. If our planters would pay more attention to the selection of the various kinds of seeds used than they have hitherto done, we have not the least doubt, that the most cheering consequences would follow.

CHOOSING SHEEP FOR BREEDING.—One of the two species of sheep, the long and the short wooled, having been chosen, as most appropriate to the situation, and wool being made an object, it is most advantageous to select such flocks as are pure as possible of the species to which they belong, and not a mixture of the short and long wooled breeds, which must generally produce an inferior fleece, disadvantageous to the manufacturer. Length of staple in the long, and fineness, elasticity and closeness in the short wooled fleece, will be the best guides in this case.

Whether the wool be long or short, the carcass of the animal ought to be amply and regularly covered; it is a great defect when the belly is bare, and a still greater when the wool is thin and open along the ridge of the back, admitting rain and moisture to a most susceptible part, indeed to descend upon all parts of the body.

It is a piece of good old advice, to buy your *rams* a little before shearing time, if possible; and a very necessary modern addition, to take the opportunity of purchasing at the farmer's house, while you see the animal in *puris naturalibus*, and before he has been decked out and trimmed for show by the sheep barber. A thick fleece, covering all parts with as much equality as possible, containing plenty of *yolk*, or retained or inspissated perspiration, is the object. If ewes, equally well bred, can be procured, the shepherd anticipates and reaps an immediate benefit; if not, he must patiently await improvement of his wool, through the medium of the superior blood of his rams.

At *shearing time*, examine the bottoms of the fleece, or the lower extremity of the filaments of wool; if it be *stichy-haired*, of mixed quality, or if the sheep have a coarse breech, or be not well covered, it must be rejected, as improper for a

breeding stock, where it would perpetuate its defects. The quantity of yolk or grease is a good proof of the thickness of the fleece, since, by the closeness and thickness of the wool, the grease or perspirable matter of the animal is retained; hence fine, closed, curled wool has ever the greatest quantity of yolk.—*Bath Memoirs.*

The culture of Hops.—Iron rods have been lately substituted for hop-poles, in several parts of England, with very remarkable success. Under this system, the rapid growth of the vine, particularly after the passing of the thunder clouds, is quite surprising; the plants are perfectly free from mould, rust, the fly, &c.; the crop proves weighty and abundant, exhibits a beautiful color, and ripens much earlier than when trailed in the usual way. The rods should be pointed, in order more effectually to attract the electric fluid, to the agency of which in producing vegetation these results are attributable. From the superior durability of the material the improvement is considered to be also a saving. In England, where whole counties are devoted to the culture of the hop, this discovery is of immense importance; and is not without its value here.

Rice family Bread.—The following letter from a lady, will teach the housewives of our country how to add to the comforts of home:—"I have been trying experiments with rice flour, and I have produced a bread that is unrivalled, far superior to the receipts you have. Since I got it perfect, I have sent some samples to every one I could think of. It is the best bread I ever tasted, and I don't think it more expensive than wheat bread, for the rice flour goes so much farther than the same weight of flour. I make it thus: one quart of rice flour made into a stiff pap by wetting it with warm water, not so hot as to make it lump; when well wet, add boiling water, as much as two or three quarts; stir it continually until it boils; then add one pint of milk; when cool enough to avoid scalding the yeast, add half a pint of good yeast, and as much wheat flour as will make it of a proper consistency for bread; put it to raise; when sufficiently risen, it will be necessary to add a little more wheat flour. If baked too soft, the loaves will be hollow. The first I baked were mere shells. If you can abbreviate the receipt for use, you may; but if you do not give all this information, people will not succeed in making it good. The same mixture, rather thinner, baked in muffin rings, makes the best muffins I ever tasted. I forgot to say the bread must stand half an hour or more in a warm place, after it is put in the baking pans, and it will rise again almost as much as it did at first."

EXTRACTS FROM AN ADDRESS

Before the Essex Agricultural Society, at Danvers, at their Annual Cattle Show. September 30, 1835, *By* Daniel P. King.

The business of the farmer requires his constant care and inspection; he must not intrust it to another; if he expects his work to be well done, he must do it himself, or at least see it done. How many farmers have been misled by the notion that their respectability and consequence in society is commensurate with the number of their acres, forgetting that it is the *condition*, and not the *size* of their farms, which gives them a character.—This desire to be considered the owner of a wide omain has been a fatal snare to many who mightd ave enjoyed their homestead in peace and plentyh —it has involved them in pecuniary embarrassments, which have driven them sorrowing from the very fields, perhaps, which their ancestors reclaimed from the wilderness, to seek for themselves and their little ones a habitation amongst strangers, or in some distant, solitary wild, where the voice of a stranger would be welcomed as the voice of a friend. When it is matter of choice, the best sized farm is that which the owner has skill, capital and energy to manage to the best advantage. A mistake similar to this, and of the same disastrous consequences, has led some farmers into extravagance in the size of their houses, extravagance in furnishing them, and extravagance in their style of living. How many kind hearted, pains-taking, industrious farmers, forgetting that "it is the eyes of others, and not our own, which ruin us," have been lured by the false glitter to rivet on the chains which have afterwards galled them to the quick! No man, except a landlord, wants a larger house than will accommodate his family, and occasionally his friends. Let every farmer, then, who is about to build, first sit down and count the cost, then let him consider at how much less expense a house of moderate size is furnished and kept in repair, and how much less labor is required in sweeping and scouring, (it will be prudent to make the calculation, although it may not be prudent to intermeddle with the operation;) and then let him seriously reflect how small a house will hold his tried, valued, and true friends. A man of ample fortune will consult his taste—he may think that a large mansion, costly furniture, and a corresponding style of magnificence, will increase his happiness—let him try it, for bank bills are as worthless as the seared and withered leaves that are put into circulation by an autumn gale, and specie as valueless as the pebbles washed by the waves of the sea, if they do not contribute to the happiness of their possessor, or if they are not in his hands the means of conferring happiness on others. But before

the man of wealth indulges in such profusion, if he is a philanthropist, he will remember that his example may be followed by those who cannot so well bear the expense; if he is a father, he will remember that his children will hardly be content with any situation or manner of living inferior to those to which they have been used under the paternal roof.

If I had not already trespassed too far on your patience, I would speak of the importance of domestic manufactures, as affording the only ready and constant market for the surplus productions of your farms, and as indispensable to the real independence of the country — I would say something of the cultivation of mulberry trees and the rearing of silk-worms, as affording a profitable and pleasant employment at home for those members of your family whose health and whose virtue might be too much exposed abroad. There are many other topics of domestic economy of great interest, but most of them have been learnedly, or what is better, practically, treated by gentlemen who have addressed you on former occasions. But there is one subject which is becoming so important, and the evils of which are so general and serious, that you will be disposed to allow it a moment's consideration. I mean the difficulty of obtaining experienced, able and faithful *help*. The complaint has been growing louder and more frequent, and a remedy is most desirable. But a few years since, for the reasonable compensation and the kind treatment they always deserve, we could easily find diligent and faithful young men and young women who were willing to afford us their assistance — and a mutual benefit was received and conferred, and readily acknowledged — it was an exchange of good offices; while they cheerfully gave us their assistance and attention in the labors of the farm and of the house, they were learning the principles of good husbandry and good housewifery — they were preparing themselves for that station in life to which every young man and young woman should be looking forward, to the relation of husbands and wives, to the situation of masters and mistresses of families of their own. A well managed farm and a well regulated household are almost the only schools where this preparatory education can be acquired by the young; they must learn to obey before they can be fit to command; they must learn the lessons of good management before they can practise them. And let them be assured that there is nothing dishonorable or degrading in attending this school, or in learning these lessons, for there is no station or occupation which is not reputable when honorably followed, and they, and they only, are useful and worthy members of society who are engaged in some useful employment. Captivating as the charms of beauty may be, and fascinating as are some of the polite accomplishments, let no young woman rely so much on these means of obtaining admiration and securing affection, as on the ability to make herself useful; for although a lover may be blind, a husband has eyes — although music, and painting, and dancing, and embroidery, may be very pleasant amusements, and afford gratification for a leisure hour, there are other hours besides those of dalliance and revelry, and other senses besides those of seeing and hearing — senses, too, which have more imperious demands; and there is danger that the wife or the mother who is not prepared to answer these constant demands, beautiful and elegantly accomplished though she may be, will not long appear graceful or lovely in the eyes of her husband. Some circumstances of fortune or station, or delicacy of health, may make it unnecessary or improper that a woman should perform active labor with her own hands, but there is no rank or station in which a lady can be placed where it is not desirable that she should know how the affairs of her household ought to be managed. I know that I give but cold and feeble utterance to the feelings of this Society in bidding a welcome, a cordial welcome, to that portion of the fairer and gentler sex who have honored this farmer's holiday with their presence. Without their encouraging smiles and cheerful assistance, even farming would be dull business. I cannot offer for their consideration a better sentiment than that contained in the words of a learned, elegant, and distinguished foreign lady, who says, "the only celebrity that can increase a woman's happiness, is that which results from the esteem excited by her domestic virtues" — and I will add, there is no praise, no applause, no glory in the wide world more worthy a woman's ambition than the fame of a well regulated household.

But pleasant, healthful and indispensable as the labors of the field and of the kitchen and the dairy may be, and excellent as is the course of discipline both for the body and the mind, there is danger that too many young men and women will prefer what they consider a more fashionable employment and a more elegant education. And you, as a Society, perhaps cannot do much to expose the mistake or to remedy the evil. It has however, occurred to me that it would be no perversion of your funds if you were to offer suitable premiums to such faithful, diligent, temperate and skilful man or woman as had remained for one or more years in the employment of any member of the Society; besides, as an additional encouragement and reward for their faithfulness, they might receive the Society's certificate, accompanied by some useful treatise on rural economy or domestic duties, such as Fessenden's Complete Farmer, for the males, and Mrs Child's

Frugal Housewife, for the females, so that the very means of rewarding, should be an encouragement and guide to greater excellence.

But if, as members of this society, you can do but little to remedy this evil abroad, as members of a more limited society you can do much to remedy it at home. Fathers and mothers, you stand at the fountain; with the lightest trace of your finger on the yielding soil, you can give a direction to the infant stream. You can send it gliding down through verdant fields and flowery lawns, imparting new fertility and beauty, and anon contributing its strength to propel the complicated machinery of industry: or you can send it dashing, foaming over precipices, to join with other impetuous, headlong streams, carrying devastation in their course: or you can suffer it to roll its sluggish way into some stagnant pool, affording a refuge for loathsome reptiles, and poisoning the atmosphere with its pestilential vapors. In infancy and at home, the deepest and most lasting impressions are made; your children may have able and faithful instructers, but there are many lessons of practical wisdom which are not taught in the schools. The mind of your child is constantly busy—he will be learning a lesson of you when you least think of it. To your child your remark is wisdom; your observation, experience; your opinion, sound doctrine; and your word, a law; your child is learning a lesson from every look and action—but most of all, your example is educating your child. It is a book constantly open before him, and which he is constantly studying. Be careful, anxious father, fond mother, that you insert no page which hereafter you may wish to tear, no line you may wish to blot—be careful that you admit into that much read volume no sentiment which you are unwilling your child should transcribe on the fair tablet within his own innocent bosom.

Fear not that I am about at this late hour to inflict on you a lecture on general education.—Schools, academies and colleges have been founded for the education of the mind and the heart; to these we must leave them; but what has been done to encourage the education of the hand?—The heart and the mind should indeed be enlightened, pure and undefiled, but the hand must be busy and skilful. The great secret of happiness consists in never suffering the energies to stagnate. Fortunately in the farmer's business there is no want of constant employment; if you can accustom your children to patient and cheerful labor, you have secured for them the means of happiness and independence. In other stations of life there may be unfortunates

"Stretched on the rack of a too easy chair,
Who by their everlasting yawn confess
The pains and penalties of idleness"—

but this mortal sin should never invade a farmer's dwelling. In training your children to a willing industry, do not overtask their strength—let them feel that they can be useful, and that their assistance is valued—There are various employments in the house, the garden and the field that are adapted to their tender years; never let their labor be such in kind or amount as shall make it disgusting, and if possible make them derive from their labor some compensation in money, or relaxation, or indulgence; never withhold the merited praise or reward. Accustom them never to expect another to do for them that which they can as well do for themselves, but to rely upon their own strength, and to trust their own energies. Whatever may be their prospects in life, teach them to depend on their own resources. Help them to cultivate an affectionate, accommodating disposition, moderation in their expectations and moderation in their pleasures. Teach them to reverence God and to love work—"neither to despise labor nor husbandry, which the Most High has appointed." "Teach them to bear the yoke in their youth, and to do with all diligence whatever their hands find to do"; so shall you deserve their assistance in the management of your house and your farms; so shall you secure for them that competence and happiness of which the mischances of this world cannot deprive them. And when you shall have performed all life's duties and enjoyed all life's pleasures, when your earthly tabernacle shall fall into ruins, when your wearied frames shall find quiet repose beneath the soil you have faithfully cultivated, and when your spirits, like shocks of corn fully ripe, shall be gathered into store houses not made with hands, eternal in the heavens—your grateful children shall arise and bless your memory; they shall be living monuments which shall bear record that you laid for them, in early habits of patient, cheerful and contented industry, the foundation for a manly, virtuous and honorable independence.

Tobacco in Russia.—The Agricultural Society of Moscow has awarded gold and silver medals, as premiums of encouragement for the culture of American Tobacco, which has perfectly succeeded in Russia.

Mites and Weevils.—The following method is practised in Germany for granaries infested by mites and weevils. Let the walls and rafters above and below of such granaries be covered completely with quick lime, slackened in water, in which trefoil, wormwood and hyssop have been boiled. This composition should be applied as hot as possible.

PLOUGHING IN A GREEN CROP.

As winter evenings seem to afford a suitable opportunity for intellectual improvement, and considering that the pages of a periodical of this kind are dependent very much on correspondents for matters of information, and that it is the part of every subscriber to contribute his mite to the improvement and information of the readers of an agricultural work of this nature, I have ventured to pen a few of my thoughts.

The farmers of almost every section of country differ materially in their modes of farming, and opinion respecting the most profitable manner of converting the produce of their farms into money. Their difference of opinion is certainly allowable and natural, when we take into consideration the difference of soils, the distance from markets, the difficulty in most neighborhoods of obtaining proper help, &c. all of which the farmer has to accommodate himself to in the best manner he can. The business of a farmer is in my opinion an independent, an honorable, and, when properly pursued, a profitable one; and no doubt, so long as our country continues in prosperity, the increasing demand for produce will insure to the farmer a handsome remuneration for the products of his soil.

Ploughing in of green crops, as practised in the State of New York, is so economical a mode of enriching the soil, that I have often marvelled it is not practised to a much greater extent in other places. Allow me to recommend the spreading of a coat of lime previous to ploughing in.

If the slovenly farmer, who allows his weeds to grow up unmolested and cover his fields, would, instead of this, plough them under, after a few repetitions of this, he would be surprised at the increased fertility of the soil, and save the labor of carting manure from a distance.

With respect to the best crops for turning under, there are various opinions; rye and red clover are, perhaps, as much in use as any other, though some plough in oats, millet, turnips, &c. In dry situations this practice succeeds best, as by the ground remaining exposed to wet, the crop turned under would not be so likely to rot.

With regard to turnips for ploughing in, I must acknowledge myself an unbeliever; I have heard of its being done to profit by others, but have seen it tried in my own neighborhood without success. Perhaps, however, it is owing to some difference in cultivation or soil with which we are unacquainted. It would confer a favor on us Jersey-men, if some of your successful New York farmers would furnish us with their experience on the subject of ploughing under green crops for manure, and on other modes of economising that very expensive, yet indispensable material in the business of agriculture.—*"Junius," in the New York Farmer.*

FODDER RACKS.

Do farmers fodder their cattle in the best way; that is, do they derive the greatest possible benefit from a given amount of hay, in the manner generally adopted by them in feeding it to their cattle and sheep? Hay by most farmers is thrown out into the yard, scattered about by forkfuls, and the cattle and sheep are left to scramble and fight for it, and get it in the best manner they may. If the yard is dry, or frozen hard, or covered with straw, or even snow, but little comparatively is lost; but if, as is very frequently the case, the yard is soft with mud and manure, it is evident much of the hay must be trodden down and totally lost, and even at the best, some will be so injured by being mixed with the dung that the cattle will not eat it. Perhaps the only complete remedy for this evil is to feed cattle exclusively in stalls, and where this is practicable, the farmer undoubtedly finds his account in the diminished quantity of food required, and the superior condition of his herds; still, but few are able to adopt this mode of feeding to any great extent, and the plan which approximates the nearest to this, and is of general and easy application, should be adopted. Experience has shown that much of this loss and inconvenience in the feeding of cattle may be avoided by the use of suitable racks, and these are not so difficult in preparation, or so expensive as some may at first imagine; indeed, it is believed that the hay annually saved to the farmer by their use, would pay the expense of a yearly construction. Racks should be so made and set, that cattle or sheep may eat from both sides at once, as they occupy much less space, and can be made at the same time more portable. To construct racks, let a tree of suitable size be split into two parts, so that when the split surface is smoothly hewn, the pieces will resemble thick heavy slabs of sixteen or eighteen inches in width. By the way, heavy slabs of the ordinary kind, which may be procured from almost every saw-mill, form very good substitutes for these split timbers, when they cannot be readily found. Near the edge of each side of these slabs let holes be bored, into which let rounds of wood be inserted; the rounds, if intended for cattle, may be four feet in length — if for sheep, two feet will be sufficient, and at such distances from each other as may be deemed advisable, always remembering that cattle should not be allowed to put their heads between the rounds, while sheep should be permitted to pass theirs at pleasure. The tops of the two rows of rounds should diverge from each other, so that while their distances at the bottom should not be more than ten or twelve inches, at the top it should be two and a half or three feet; and if a slight railing of board be fixed on the top of those racks intended for cattle, they will be so much the stronger and better; on the ones intended for sheep, no such security is ne-

cessary. Let logs in a bracing manner be put into the slabs, so as to raise them, if for cattle, two feet, if for sheep, one foot; let these feet rest on thin flat stones, so as not to sink into the earth, and the rack may be considered as completed. Now it is evident that when such racks are properly placed and filled with hay, both cattle and sheep can eat of it much more comfortably, and to far greater advantage, than if it was scattered over the earth, or mixed with the mud and water of the yard. If such racks were constructed of the proper length, say twelve or fifteen feet, they could be easily removed from place to place, as most convenient during the winter; and in the spring, when no longer necessary, by placing them under cover, as should always be done, they would last for years. Farmers should always bear in mind that no man loses by attention to the comfort, ease, and health of his cattle and sheep, and that all suitable efforts for this purpose are amply repaid in the end. It was the advice of the wisest of men, the poet, philosopher, and natural historian of the inspired writings, "Be thou diligent to know the state of thy flocks, and look well to thy herds," — advice which, if proper in the mild climate of Palestine, becomes doubly appropriate in our latitude, and during the freezing winters of New York.—*Genesee Farmer.*

Kennebec Farming.—From the Report of the Committee of the Kennebec County Agricultural Society on corn, wheat, rye, barley, oats, &c., it appears that Abraham Pray, Jr. to whom was awarded the first premium on corn, raised on one acre, on which he spread 56 loads of manure and ploughed it in, 108 bushels and 12 quarts. Rowland B. Howard who obtained the second premium on 2 acres of pasture land on which were put 20 loads of green manure and ploughed in, and 20 loads of hog, sheep and compost manure put into the hills, raised 162 bushels. Amasa Tinkham who obtained the third premium, on one acre of sandy loam into which he harrowed 12 loads of green manure and put 12 loads in the hills, raised 78 bushels corn, seven bushels pea beans and one load of pumpkins. There were several other competitors, who though not so successful as the above, fell but little short. The result of each effort afforded a strong demonstration of the advantage of the farmer's proportioning his planting ground to his stock of manure. If Mr Tinkham had spread his 24 loads of manure on two acres, which we believe wou'd not have been a less liberal manuring than is very common with the farmers in Maine, he would not have been more unfortunate than common to have obtained no more than 60 bushels of corn, with nearly twice the expense of labor.

Leavit Lothrop 33½ bushels wheat on an acre; Mr Hankerson 33¾ bushels. Moses H. Metcalf raised 24 bushels rye on one acre. Joshua Wing on an acre and 149 rods, raised 70 bushels barley; and Bradford Sawtelle 49¾ bushels on one acre. Joshua Wing on one acre 90 rods, raised 62½ bushels of peas and oats. Abraham Pray, Jr. raised 58½ bushels of good oats on one acre.

Considering that the last season was hardly a favorable one for any kind of crops in Maine, the above results are highly creditable to the agricultural community in the county of Kennebec. If the same spirit of agricultural ambition and enterprise, which pervades that flourishing county could be excited throughout the State, Maine would not long be less distignuished for her agricultural prosperity and importance, than she already is for the richness of her forests, and her natural commercial advantages and facilities for manufactures.

Pruning Apple Trees. — It is a common practise to neglect, almost totally, apple orchards after they have been planted; and in consequence of this neglect, the growth becomes crooked and irregular — branches incline upon the ground, and become so numerous and dense as almost completely to shut out the sun and air, — they become stunted, and often become covered with moss, and the fruit small and of inferior quality.

Moderate and judicious pruning would contribute essentially to prevent this evil, and even to recover trees which have not too far advanced in this unthrifty state; but where they have long existed without care, and have grown old and become diseased, it is cheapest to remove them at once, and plant young and vigorous ones in their places. Doctoring diseased old trees is never to be recommended, except they are of some favorite, or choice variety,

It is not advisable to prune very freely, but to commence before the trees become very large, and by a frequent and moderate trimming, prevent the growth of a thick and crowded top. The operation should be so performed that the straightest and most thrifty branches may remain; and their distance asunder be such as freely to admit light and air.

In pruning, branches should be cut off as closely as possible, provided it does not occasion too broad a wound. The place is then sooner covered with a new growth of wood. In general, wounds more than an inch in diameter, should be protected from air and moisture. If not, they become dry and crack, and let in the rain and rot, or admit insects. Tar, mixed while heated with a quantity of whiting or pounded chalk sufficient to prevent its running, is an excellent application. Or nearly the same purpose is effec-

ted if brick dust, or even fine sand, be substituted for whiting.

Pruning apple trees may be advantageously performed any time during winter.—*Genesee Farmer.*

Economy in Fuel.—There is a prodigious waste of coal, occasioned by the width of the opening in the grates, by which a large portion of the heat escapes up the chimney. The best remedy is a register so contrived as to diminish the draft after the fire is ignited. A simple bar of iron will answer the purpose of diminishing the aperture, and any one who will take the trouble of trying the experiment, will be astonished at the aditional heat thrown into the room by one of extraordinary thickness. A bar of iron that will cost twenty-five cents, will produce twenty per cent more heat.—*Boston Traveller.*

From the Georgia Telegraph.

Cotton Seed Oil.—A Gentleman of Upson county whose two sons have there a spinning Factory of six or eight hundred spindles, is now constructing in the same neighborhood, under water power, a set of machinery for cleaning and hulling Cotton Seed, and for expressing the oil, which for lamps has been found at the Petersburg Va. Factory, to be superior in more than one respect, to most of the Sperm oil. It burns with a clear brilliant light without odor, and is less affected by cold weather than the oils generally used. It is said to have been tested in New York as a paint oil and found good, and the *Cold Pressed* pronounced by a French gentleman to be equal to Olive oil for salads, &c.

This manufacture is quite a desideratum to our Planters as well as the oil maker, as from each bale of cotton come about thirty bushels of seed, and every three bushels of seed yield at least two gallons of oil. Rating the seed at twelve and a half cents per bushel, each bale will produce to the grower $3, 75 more than at present. The oil expressed will be twenty gallons, worth at least 87½ cents or one dollar per gallon, supposing the Sperm oil to cause a reduction in its price.

C.

To prevent brass vessels from contracting verdigris after being used.—Instead of wiping them dry it has been found, that by constantly immersing them in water, they are kept perfectly innoxious, and will remain for years, fully as clean and nearly as bright as when they first came out of the hands of the workmen.

The daily increase of population in the United States is about one thousand.

Microscopic view of Milk.—If you submit milk to examination by the microscope, you will observe that it consists of a number of globular particles which float in a serous fluid.—Raspail says they appear strongly colored, and black on the edges, on account of their minuteness. They are not more than half the size of the globules of human blood; their diameters, therefore, will be about one ten thousandth of an inch. They are composed of a fatty matter—butter—and a coagulable substance of the nature of albumen, but which slightly differs, and, in fact, is caseum, constituting the basis of cheese. These globules being specifically lighter than the liquór in which they are separated, easily separate by standing, and form cream. We cannot help being struck with the remarkable analogy which exists between milk and an emulsion (as that made with almonds.) Both have a whitish appearance and a sweetish taste; both, on an examination by the microscope, are found to contain an immense number of oily globules, held in suspension by an albuminous matter and sugar, and both are intended for the nourishment of young living beings.—*Percival's Lectures.*

A big Pot.—A potter, in Austria, by the name of Ignatius Carlier, finding it difficult to procure employment, though not from any want of skill in his art, resolved to do something which should bring him into public notice. He resolved, therefore, to make a pot which should astonish all beholders; and after laboring three months, he produced a vessel capable of containing 4000 measures, or a quantity of soup sufficient for 12,000 men. The sides were ornamented with garlands, the imperial eagle, and a representation of the temptation of Adam and Eve. This stupendous pot being exhibited, procured him the requisite notoriety, and orders from all quarters poured in upon him in such profusion that he is now in a fair way to make his fortune.

Important to Hop growers.—It has been found that the substitution of iron rods in place of hop-poles exerts a most favorable effect upon the growth and amount of crop. The plants are not troubled with mould, rust or the fly; they grow much more weighty and luxuriant and ripen much quicker. This effect is supposed to be owing to the electric fluid attracted by the iron conductors.

Pork.—The price of Pork will range this season in the State of Ohio generally, as far as we are able to learn, from $4, $4 50, to $5 per cwt.—*Ohio Farmer.*

BRIGHTON MARKET,—Monday, March 7, 1836.

Reported for the Daily Advertiser & Patriot.

At Market 240 Beef Cattle, and 230 Sheep. 60 Beef Cattle unsold, all of which are of the first and second quality.

Prices—*Beef Cattle*—A large proportion of the Beef Cattle were purchased before they arrived at market by speculators, and were held at a considerable advance. Many of the butchers did not purchase their full supply, refusing to pay the prices demanded We noticed a few yokes extra taken at 45s. A pair extra fine were sold on Tuesday by David Barnard to Nathaniel Martin at $8 per 100 lbs. We quote first quality at 40s a 43s; second do. at 33s 9d a 37s 6; third do. 29s a 32s 6d.

Sheep—We notice sales at the following prices; 27s, 30s, 34s, 6d, 36.

Swine—None at market.

GARDEN SEEDS AT $1 PER BOX.

Small Boxes Garden Seeds, containing a good assortment for a very small garden, for sale at $1 per box.

Also — A very large assortment of Garden and Flower Seeds, raised in gardens connected with the Agricultural Warehouse, &c. now ready for sale and orders promptly executed. Jan. 27. GEO. C. BARRETT,

WANTED,

Vol. I., N. E. Farmer, for which a high price will be given.
Feb. 24 GEO. C. BARRETT.

FINE EARLY PEAS.

Earliest Dwarf Peas—the earliest variety of Peas, grown from 20 to 24 inches high—consequently require no sticks.

Early Washington Peas; a very *productive* early variety.
" Charlton " Early Golden Hotspur, do.;
Bishop's Early Dwarf, do.; very Dwarf and early.

Also—Dwarf Scymetar Peas—A new variety from Scotland; this Pea will be found a great acquisition for a very productive and delicious *late* sort.

Dwarf Blue Imperial Pea;
Large Dwarf Marrowfat, do.; &c. &c.

All the above were raised expressly for the New England Seed Store, Nos. 51 & 52, North Market Street.

TEAZLE SEED.

Just received 50 lbs. prime Teazle Seed. The importance of this crop merits the attention of agriculturists.
Dec. 16. G. C. BARRETT.

25,000 WHITE MULBERRY TREES.

The Subscriber will engage, if applied for soon, a part or whole of the above number of White Mulberry Trees, very thrifty and in good order, to be delivered in the spring.
Feb. 3 G. C. BARRETT.

Subscriptions and payments to the Silk Manual will be received by the following named

AGENTS.

New York—G C. Thorburn; 11 John-street.
Albany—Wm. Thorburn, 347 Market-street.
Philadelphia—D. & C. Landreth, 85 Chesnut-street.
Baltimore—Publisher of American Farmer.
Cincinnati—S. C. Parkhurst, 23 Lower Market-street.
Flushing, N Y.—Wm. Prince & Sons, Prop. Lin. Bot. Gar
Middlebury, Vt.—Wight Chapman, Merchant.
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Newburyport—Ebenezer Stedman, Bookseller.
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Bangor, Me.—Wm. Mann, Druggist.
Halifax, N. S.—E. Brown, Esq.
St. Louis—Geo. Holton

PRINTED BY TUTTLE, WEEKS & DENNETT,
No. 8, School Street.

PRICES OF COUNTRY PRODUCE.

CORRECTED WITH GREAT CARE, WEEKLY.

		FROM	TO
Apples, Russetts and Baldwins.	barrel	1 50	2 25
Beans, white,	bushel	1 75	2 00
Beef, mess,	barrel	11 37	12 50
Cargo, No. 1.	"	9 25	10 00
prime,	"	7 37	7 62
Beeswax, (American)	pound	25	27
Butter store, No. 1	"	20	22
Cheese, new milk,	"	8	9
Feathers, northern, geese,	"	46	50
southern, geese,	"	42	45
Flax, American,	"	9	10
Fish, Cod,	quintal	2 87	3 00
Flour, Genesee, cash	barrel	8 25	8 50
Baltimore, Howard street,	"	7 75	7 75
Baltimore, wharf,	"	7 50	7 62
Alexandria,	"	7 50	7 62
Grain, Corn, northern yellow	bushel	92	95
southern flat yellow	"	85	87
white,	"	80	84
Rye, northern,	"	1 05	1 06
Barley,	"	90	1 00
Oats, northern, (prime)	"	70	75
Hay, best English, per ton of 2000 lbs		25 00	30 00
eastern screwed,	"	22 00	24 00
hard pressed,	"	24 00	25 00
Honey,	gallon		
Hops, 1st quality	pound	13	14
2d quality	"	10	12
Lard, Boston, 1st sort,	"	13	14
southern, 1st sort,	"	11	12
Leather, slaughter, sole,	"	19	20
do. upper,	"	12	14
dry hide, sole,	"	19	21
do. upper,	"	18	20
Philadelphia, sole,	"	27	29
Baltimore, sole,	"	25	27
Line, best sort,	cask	1 20	1 25
Plaster Paris, per ton of 2200 lbs.		3 12	3 37
Pork, Mass. inspect. extra clear,	barrel	24 00	25 00
Navy, mess.	"		
bone, middlings, scarce,	"		
Seeds, Herd's Grass,	bushel		
Red Top,	"	75	90
Red Clover, northern,	pound	10	11
Silk Cocoons, (American)	bushel		
Tallow, tried,	cwt.	8 50	9 00
Wool, prime, or Saxony Fleeces,	pound	65	75
American, full blood, washed,	"	55	65
do. 3-4ths do.	"	55	58
do. 1-2 do.	"		50
do. 1-4 and common	"	40	45
Native washed	"	38	60
Northern pulled. Pulled superfine,	"	58	60
1st Lambs,	"	50	53
2d do.	"	40	41
3d do,	"	30	35
1st Spinning,	"	48	50
Southern pulled wool is generally 5 cts. less per lb.			

PROVISION MARKET.

RETAIL PRICES.

Hams, northern,	pound	12	14
southern, and western,	"	11	12
Pork, whole hogs,	"	9	10
Poultry,	"	11	15
Butter, (tub)	"	18	20
lump	"	22	25
Eggs,	dozen	23	33
Potatoes,	bushel	30	50
Cider,	barrel	1 75	2 00

ORDERS FOR PRINTING RECEIVED BY THE PUBLISHER.